1. A method of using a moving-piston, pulse engine in an aquatic environment to generate controlled, repeatable and variable acoustic energy for acoustic purposes comprising the steps of:

placing a moving-piston, pulse engine in an aquatic environment; and

activating said engine so that the engine operates for a predetermined time interval to produce a pulse of acoustic pressure which is propagated within the aquatic environment.

2. A method as in Claim 1, wherein:

said engine operates on the regenerative piston principle such as the HIPPE.

3. A method as in Claim 1, wherein:

said engine is sequentially operated to produce a sequence of pulses.

4. A method as in Claim 1, wherein:

said engine is sequentially operated in accordance with a program designed to produce a pulse rate or sequence of pulses which constitute a meaningful coded message.

5. A method as in Claim 1, wherein:

said pulse of energy is roughly about 3 to 10 milliseconds in duration.

6. A method as in Claim 1, wherein:

said aquatic environment is a marine environment.

7. A method as in claim 1, wherein:

the pressure produced by the pulse is roughly about 3000 to 10,000 psi.

8. A method as in Claim 2, wherein:

said engine is sequentially operated to produce a sequence of pulses.

9. A method as in Claim 2, wherein:

said engine is operated sequentially in accordance with a program designed to produce a sequence of pulses which constitute a meaningful coded message.

10. An acoustic generator for an aquatic environment comprising:

a repeatable pulse combustion engine including a combustion chamber having an exit,

a pipe having a first end affixed to said combustion chamber exit and in fluid communication with said exit, said pipe having an axially extending second end; and

disperser means having an outer surface, said disperser means centrally located on the axis of the second end of said pipe, and adjacent the second end for dispersing combustion gases discharged therefrom, wherein,

when said engine is pulsing, the combustion gases from said combustion chamber travel through said pipe and through a space between the outer surface of said disperser means and said second end of the pipe, so that the combustion gases are spread out as they flow around said disperser means forming a controlled cavity in the surrounding aquatic environment and a resultant acoustic wave through said environment.

11. An acoustic generator as in Claim 10, wherein:

a portion of said disperser means extends inside said pipe to form an annular void between the outer surface of said disperser means and an inner surface of said pipe.

12. An acoustic generator as in Claim 11, wherein:

the shape of said disperser means is divergent from a point which extends farthest inside the pipe.

13. An acoustic generator as in Claim 11, including:

means for adjusting a physical parameter of said disperser means for varying the space between the outer surface of the disperser and the inner surface of the pipe.

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~~14. An acoustic generator as in Claim 11, including:~~

~~means for adjusting the position of said dispersing means so that the dispersing means can be moved further into or out of the second end of said pipe.~~

15. An acoustic generator as in Claim 11, wherein:

said engine is a HIPPE engine.